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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/456,371	12/08/1999	HEINRICH BOLLMANN	12010	6395

28484 7590 11/05/2010  
BASF AKTIENGESELLSCHAFT  
CARL-BOSCH STRASSE 38, 67056 LUDWIGSHAFEN  
LUDWIGSHAFEN, 69056  
GERMANY

EXAMINER
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CHANG, VICTOR S

ART UNIT	PAPER NUMBER
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1788

NOTIFICATION DATE	DELIVERY MODE
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11/05/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

fernando.borrego@basf.com  
marjorie.ellis@basf.com  
ipdocket@h2law.com

<b>Office Action Summary</b>	<b>Application No.</b> 09/456,371	<b>Applicant(s)</b> BOLLMANN ET AL.	
	<b>Examiner</b> VICTOR S. CHANG	<b>Art Unit</b> 1788	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 19,20,22,23 and 30-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 19,20,22,23 and 30-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Introduction***

1. A request for continued examination under 37 CFR 1.114 was filed in this application after a decision by the Board of Patent Appeals and Interferences, but before the filing of a Notice of Appeal to the Court of Appeals for the Federal Circuit or the commencement of a civil action. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 9/28/2010 has been entered. Claim 19 has been amended. New claims 31-35 have been entered. Claims 19, 20, 22, 23 and 30-35 are active.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. In response to the arguments, the grounds of rejections are updated as set forth below.

### ***Drawings***

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. No new matter should be entered.

Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any

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required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Since the drawings submitted 11/17/2003 are not replacement sheet, and contain structural features not disclosed in the original filing, the drawings clearly contain new matter. Applicants must cancel the drawings and the structural features only disclosed in the drawings, but not in the original specification.

### ***Specification***

5. The amendment to the specification filed 11/17/2003 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention.

Applicant is required to cancel the new matter in the amended specification in the next reply. Continued failure to cancel new matter in the amended specification will be held as non-responsive.

### ***Rejections Based on Prior Art***

6. Claims 19, 20, 22 and 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Renzo (FR 2559862, English Translation).

Renzo's invention relates to a damper (shock absorber) for automobile suspension system. Figs. 5 and 6 illustrate that the damper comprises a bellows 50, made of a material with a high modulus of elasticity, and an internal core 51, made of a cellular elastomer (flexible). The bellows 50 has wall of small thickness, and is a molded thermoplastic polyurethane (TPU) resin

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having very high fatigue strength and great reliability. The cellular elastomer 51 is foamed polyurethane (PU) which is developed within (foamed *in situ*) and bonded to the internal surface of bellows 50. The foam density produces the required dynamic compression curve. See pp. 4-5.

For claims 19 and 22, regarding the term “flexible”, it interpreted as an inherent to the composition of materials. Renzo is silent about: 1) the wall thickness of the bellows; and 2) the foamed PU is chemically bonded to the TPU of bellows. However, regarding 1), since Renzo discloses the same subject matter for the same end use (a shock absorber for a vehicle suspension system) as the claimed invention, and teaches that the bellows has small thickness, but very high fatigue strength and great reliability, a workable bellows of small thickness is deemed to be obvious routine optimization to one of ordinary skill in the art, motivated by the desire to provide required dynamic deformation and durability. Regarding 2), since Renzo teaches the same *in situ* foaming process and the same chemistry for all the components in the shock absorber as the claimed invention, the type of the bonding is deemed to be inherently the same.

For claim 20, Renzo is silent about the density of the PU foam and its various mechanical properties. However, since Renzo teaches that the foam density produces the required overall dynamic compression curve, a workable density and its resultant mechanical properties of the PU foam are deemed to be obvious routine optimization to one of ordinary skill in the art, motivated by the desire to obtain required shock absorbing properties for the same end use as the claimed invention. Regarding newly added limitation in claim 19, it fails to structurally or compositionally distinguish the claimed invention from the relied upon prior art Renzo.

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For claims 31 and 32, for the same reasons set forth above, in particular Renzo teaches that the bellow is made of a material with high modulus of elasticity, very high fatigue strength and great reliability, a workable ultimate tensile strength is also deemed to be either anticipated, or obvious routine optimization to one of ordinary skill in the art.

7. Claims 30 and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Renzo (FR 2559862, English Translation) in view of Zeitler et al. (US 5288549).

The teachings of Renzo are again relied upon as set forth above.

For claims 30 and 34, Renzo is silent about the ratio of the isocyanate groups to isocyanate reactive groups. However, Zeitler's invention relates to a composite comprising foamed PU layer and TPU elastomer. See col. 1, ll. 7-10 and col. 2, ll. 39-40. The TPU elastomer is made from a mixture having isocyanate (NCO) groups and hydroxyl (OH) groups (i.e., isocyanate reactive groups) at a ratio of 0.85:1 to 1.1:1, and it provides required rigidity in the composite. See col. 3, ll. 15-23. It would have been an obvious routine optimization to one of ordinary skill in the art to make the TPU elastomer in Rezo's composite by selecting a workable NCO/OH ratio, as taught by Zeitler, because the selection of a known material based on its suitability for its intended use supported a *prima facie* obviousness determination. See MPEP § 2144.07.

For claim 33, Renzo's bellow wall reads on the term "support member".

For claim 34, for the same reasons set forth above, various mechanical properties are deemed to be either anticipated, or obvious routine optimization to one of ordinary skill in the art, dictated by the same required properties for the same end use as the claimed invention.

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8. Claim 19, 20, 22, 23 and 30-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knox (US 3133853) in view of Zeitler et al. (US 5288549).

The teachings of prior art are again relied upon, as set forth above.

Knox's invention relates to resilient polyurethane foam composite having improved load-bearing characteristics. The composite has regions of varied increased load-bearing capacity similar in effect to incorporated mechanical springs. See col. 1, ll. 40-43. Figs. 1 and 2 illustrate that the composite comprises a cellular polyurethane structure having incorporated therewith a solid non-cellular polyurethane non-planar sub-structure. See col. 50-52. The elastomer layer is at least 20 mils thick. See col. 1, ll. 62. The load-bearing characteristics of the composite can be varied by regulating the thickness of the non-cellular polyurethane element inserted into the cavity of the cellular polyurethane, the intrinsic stiffness (modulus) of the non-cellular polyurethane elastomer, and the dimensions of the cavities and their arrangement. When a higher load-bearing is required, the polyurethane elastomer employed should be less flexible. See col. 2, ll. 26-32.

For claims 19, 20 and 30-35, for the same reasons set forth above, it would have been an obvious routine optimization to one of ordinary skill in the art to make the PU elastomer in Knox's composite by selecting a workable NCO/OH ratio, as taught by Zeitler, because the selection of a known material based on its suitability for its intended use supported a *prima facie* obviousness determination. See MPEP § 2144.07. Regarding the various mechanical properties are deemed to be either anticipated, or obvious routine optimization to one of ordinary skill in the art, dictated by the same required properties for the same end use as the claimed invention (a load-bearing capacity similar in effect to incorporated mechanical springs.)

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For claims 22 and 23, Knox's Figs. 1 and 2 reads on the claimed structural relationships.

### ***Response to Arguments***

9. In view of the updated grounds of rejections, applicants' arguments are moot. Applicants are reminded that the rejections over of claims 19, 20, 22 and 30 under 103(a) over prior art references has been maintained by BPAI mailed 7/28/2010.

### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VICTOR S. CHANG whose telephone number is (571)272-1474. The examiner can normally be reached on 6:00 am - 4:00 pm, Tuesday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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/Victor S Chang/

Primary Examiner, Art Unit 1788